

LONG ISLAND BOTANICAL SOCIETY

Vol. 11, No.2

The Quarterly Newsletter

April - June 2001

Secret Relationships Among our Native Orchids

Lance T. Biechele

Students of the orchids are aware that all terrestrial North America orchids are dependant upon a "mycorrhizal" relationship with a fungus for their survival. While there are different types of mycorrhizae, in the orchids the fungus hyphae (thread-like extensions) actually penetrate the roots of the host plant. The fungal mycelium (interwoven hyphae) assimilates amino acids and conducts nitrogen from nutrient-deficient soils to the developing seedling (Cook, 1978).

It has also been proposed that orchids might be parasitic upon the fungus. In the common Downy Rattlesnake-Plantain (*Goodyera pubescens*) it is evident that the orchid is digesting the hyphae clumps, or mycelium contents, in the root cells of the protocorm (the rootlets of the orchids). In the process of this parasitism, at least part of the nourishment derived from the fungus is retrieved by the host (Correll, 1950).

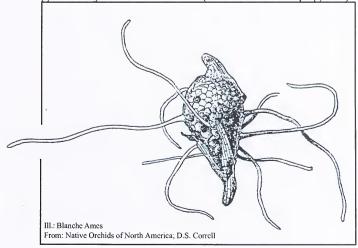
In the initial stages of the orchid root development, the fungus is able to penetrate the rootlets. Afterwards, the roots develop a thicker cortex and lose their transparent texture. They then become impenetrable to future fungal entrance.

Several different fungi have been isolated, all occurring as soil saprophytes, facultative parasites or as orchid symbionts. Two mycorrhizal isolates, *Rhizocotonia repens* and *Rhizocotonia solani*, are notorious root pathogens belonging to the "class" *Mycelia sterilia* (Alexopouls, 1962). These two fungi are referred to as the damping-off fungi in agriculture because they accumulate on the

roots of young germinating plants and cause a fungal death to the seedlings. However, in orchids they become integrated with the roots of the young growing orchid and are actually necessary for the health of the orchid.

The largest order of endophytic (living within another plant) fungi belong to the order *Tremollales*. Two families of the jelly fungi, the *Ceratobasidiaceae* and the *Tulasnellaceae*, generally form nonaggressive associations with their plant host. The latter produces a resupinate(inverted), gelatinous, deciduous basidiocarp (Ainsworth, 1973). *Tullasnella calospora* is a ubiquitous endophyte that has been isolated from 100% of the terrestrial orchids in Australia (Cooke, 1978).

Orchid-fungal associations are more clearly based on ecological rather than taxonomic groupings. Utilizing endophytic fungi, our native orchids have the capability of dominating areas with generally unfavorable (Continued on page 16)



Protocorm of Downy Rattlesnake (Goodyera pubescens) Figure shows the protocorm (30x natural size) with spreading hair-like structures through which the hyphae pass to and from the humus and the growing tip.

Long Island Botanical Society Founded: 1986 Incorporated: 1989

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

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Annual Dues of \$15 payable to: Long Island Botanical Society Mail to:

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Article & News Submissions

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Printed by Native America

Society News

Saving the Springs: On February 27, the Suffolk County Legislature voted unanimously to allocate funding to purchase the Islip portion of the Hauppauge Springs. County Executive Robert Gaffney signed the resolution in March. The Hauppauge Springs Coalition initiated by Native America, has become the leading force in this endeavor. LIBS was the first organization to join the coalition in December of 2000. Next is the matter of purchasing the parcels.

Sound Advice: Mary Laura Lamont went to great lengths on behalf of LIBS to provide input to the "Listen to the Sound" project. The focus of this Audubon initiative is to forward a concept of a Long Island Sound Reserve system to manage coastal lands.

Summoning LIBS: Once again, Huntington Audubon, the county assigned stewards of Froelich Farms, requested botanical expertise from LIBS for an extended plant inventory. Last year LIBS conducted a spring inventory and this year a fall inventory is planned.

Showcasing LIBS: Bill and Dorothy Titus represented LIBS with a display at Clark Botanical Garden for their Club Day on March 3. Literature was handed out, and new members signed up.

Interning in Islip: The Town of Islip will be sponsoring a paid intern this summer. The town is looking for a student to implement designs involving native plants. Contact: libs@nativeamerica.org Also, Bob Laskowski will be sponsoring a summer intern at the Islip Town Nature Center. Contact Bob Laskowski at: (631) .218-8608.

Following Suit: The Ridge Civic Association and the Open Space Council filed a lawsuit against Brookhaven Town Planning Board for its approval of a 116-home subdivision in Randall Woods. The site contains the only Shagbark Hickory stand known on Long Island. For additional information contact: (631) 361-3696.

The Coalition for the Future of Stony Brook has sued the Brookhaven Town Planning Board for approving Eagle Realty's site plan to expand the Stony Brook Post office into Stony Brooks's last forest. For information contact: (631) 741-7459

The Long Island Pine Barrens Society has filed an appeal to the NYS appellate division suing the Town of Riverhead for mishandling of the Grandifolia Sandhills. Meanwhile, the Talmages requested and received permission from the town to broaden their bulldozing exercises in the rare ecosystem. They continue to blast glacial boulders and eradicate the age-old native plants up to the bluffs.

Milestones

Adolescent Anniversary: This year marks the fifteen year anniversary of the founding of the Long Island Botanical Society. LIBS was conceived in 1986 at Stony Brook University by a group of two dozen devoted botanists and ambitious naturalists. LIBS has since grown to over two hundred and fifty members and has become a lead organization for botanical reference on the flora of Long Island.

Letters to the Editor

Thank you for your help on the Coniferae, much appreciated. I did receive at least one phone call of *Juniperus communis* occuring naturally in a county park on the north shore in Miller Place. I hope to collect specimens from there soon, so will still keep looking for it, thanks again.

Sincerely, John Silba, Botanist SUNY Farmingdale

Requests to the Editor

I am looking for information on lopped trees on Long Island, both the historical practice of training native trees (White Oak, Black Cherry, American Chestnut, Dogwood, etc.) into living fences or boundary markers, and the locations of extant trees and their co-occurence with boundary ditches for a graduate thesis project. Any help would be much appreciated.

Philip Marshall
420 Temple Street #507
New Haven, CT 06511
(203) 436-2137; philip.marshal@yale.edu

I am interested in any observations regarding the occurrence of Russian Thistle, aka Tumbleweed, (*Salsola kali*) on Long Island. Also, of interest, would be the community on which it was found. Additionally, if any hydroseeding had occurred in the area or if straw bales, etc. were present in the area, since this might be the seed source.

John A. Black 162 Handsome Ave. Sayville, NY 11782



Tumbleweed (Salsola kali)

Plant Sightings

Galax: In early January, Barbara Conolly photographed a Galax (*Galax aphylla*) leaf in Coffin Woods. In February, when Bill Titus questioned the status of the native stand there, Betty Lotowycz volunteered that it was probably planted by Mrs. Coffin along her walk. Eric Lamont also mentioned that some persisted in Bayard Cutting Arboretum. Al Lindberg mentioned that some at Chelsea around the pond probably came in with Rhododendron plantings. In March, Bob Laskowski went on to remark that Galax also persists in Islip from horicultural introduction.

Goldenrod: Eric Lamont mentioned that in going over a Goldenrod collection made by Dick Stalter, he discovered that a specimen collected at a small state park next to Jamaica Bay Wildlife Refuge was *Solidago rigida*, a rarity in New York state and especially on Long Island.

Orchids: Skip Blanchard noted that in addition to the Autumn Coralroot (Corallorhiza odontorhiza) he and Jane discovered in Flanders last November, he has come across Wister's (Spring) Coralroot (Corallorhiza wisteriana) while in Florida. Eric Lamont mentioned that Carol Gracie, who is working on a wildflower book with Steve Clemants said last fall she had alot of the Autumn Coralroot in New England.

Persimmon: Philip Marshall and Tom Stock discovered a stand of two dozen Persimmon (*Diospyros virginiana*) trees seventy feet tall in a private yard in Manorville just south of the LIPA powerline near the Maples Inn on Riverside Ave.



Persimmon bark

Photo: Tom Stock

Our Native Orchids (continued from page 13)

soil conditions. The seedling is dependant upon the moisture and nutrients furnished by the fungus, but as the plant matures, it is evident that symbiosis is readily replaced with host-plant parasitism.

The fungi that are found in association with orchids do not reproduce within the orchids. The mycelia within the orchids are sterile and do not produce fruiting bodies. When orchids grow in an area, they are merely garnering and harboring the necessary fungi that are already there. They do not beget additional fungi for the area.

Orchid populations will migrate through an area with soil bearing the necessary fungus. As the orchid population expands, it depletes the fungal reserves. The fungi necessary for orchid growth reproduce by sporulation outside of the orchid and need proper habitat to flourish. The fungus *Rhizocotonia repens*, present in most orchids, is found growing in wet, boggy areas (Withner, 1974). Therefore, wet habitat becomes important.

Once the seed of the orchid falls to the ground, the hyphae of the fungi must penetrate the fine roots for the young orchid to survive. As orchids age and wither, new orchid seeds will find insufficient amounts of fungi in the immediate area and will only be able to survive at the outskirts of the area where there are ample fungi in the soil. When planning for orchid preservation, one must bear in mind the need for adequate bordering wetland areas to allow for pioneer orchid plants to establish themselves.

I am most grateful to Luther Schultz of Berlin, Maryland who generously supplied information on the distribution of our local orchid flora.

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Outline of a Revised Classification For Mature Forests and Related Woody Vegetation on Long Island, NY

Andrew Greller

There is a renewed interest in biodiversity that has prompted numerous observers to report common and unusual occurrences of forest trees (e.g., Greller, Lindberg and Lindberg 2000). Of primary ecological interest in such cases is the proper identification of the plant community type in which the new species appears. Plant communities were summarized for New York State (NYS) by C. Reschke (1990). That publication, which is the standard for ou state, was updated recently by Edinger et. al. (unpublished draft). Prompted by the effort to update Reschke's important work, the present author offers a revision of his earlier attempt at Long island forest calssification (Greller 1977). In order to relate local forest calssification to systems at the national leve, this study proposes to bring Long Island forest syntaxonomy into line with USDA Forest Service concepts and nomenclature (e.g., Cooper et. al. 1991).

The author thanks Karen Blumer, Fiorella Conti, Allan and Lois Lindberg, Carole Neidich-Ryder, George Waldbusser and Douglas Winkler for assistance and direction in the field.

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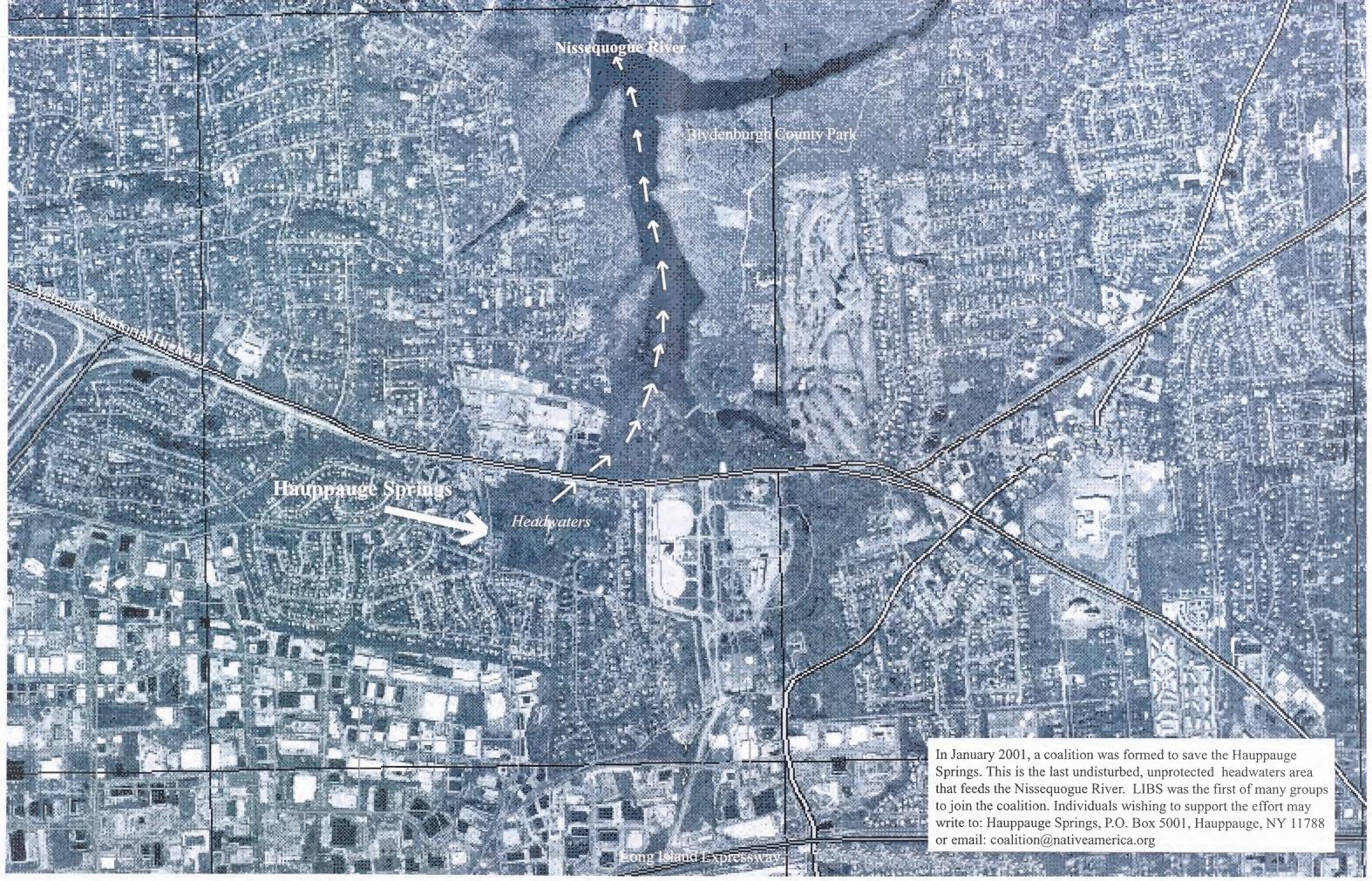
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Editor's Note: The author considers this a work in progress and seeks comments from the many field botanists on Long Island. Contact: agreller2@erols.com

A continuation of the following outline will be published in subsequent issues of the LIBS newsletter.



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An Interview With "Wildman" Steve Brill

Peter R. Warny

After twenty years of leading and participating in ecological field trips from California to the Bahamas, one of my favorite, inspiring and entertaining field tour leaders is the "Wildman" Steve Brill. I have seen the good, the bad and the ugly of field trips. I have experienced dozens of wonderfully intriguing and interesting field trips learning about and observing zoological and botanical biodiversity and natural history. I've also seen one of my good friends get bitten by a poisonous snake on one of my field trips.

Of all the people I have been afield with, I always find the Wildman's perspective on natural history refreshingly educational, entertaining and never boring. While some refer to the "Wildman" as politically incorrect, irreverent and iconoclastic, I find his wild plant nature tours extremely informative and stimulating. His unabashed sense of humor blends well with his encyclopedic knowledge of edible and medicinal plants, trees and mushrooms.

I interviewed Steve Brill about his extensive experience leading plant ecology tours on Long Island, Queens County (where he resides), Manhattan, Staten Island, Westchester County, New Jersey, Pennsylvania and other places. I have accompanied Steve with my wife and son, and a gaggle of nature lovers touring Sands Point Preserve and Muttontown Preserve. I appreciate the way Steve often relates interesting anecdotes about various plant species ethnohistory and taxonomy during his walk.

I have also taught school "ecology day" programs with Steve in Manhattan and the Bronx. At a school bordering a restored section of the Bronx River, Steve and I would rotate touring the riverbank grounds, with me teaching zoology and Steve teaching botany. Steve's approach, teaching technique and listening skills form an efficient and pleasant learning experience for children of all ages.

I have known the "Wildman" for several years and have been on Steve's public access TV show as well as doing radio talk shows on the topic of natural history with Steve in New York City.

PRW: Where are some of your favorite and most interesting places for leading family plant tours on Long Island?

SB: I don't really have a favorite place, but I do like the L.I. Greenbelt Trail which has Black Trumpet mushrooms and succulent fox grapes. I also like the Nassau Suffolk Trail which has dense stands of edible cattails in season. I also enjoy Alley Woods and Forest Park for Chicken Mushrooms, ramps and other renewable resources.

PRW: Where you live in Queens is actually on Long Island. What can you tell us about your home area?

SB: I live in the old Briarwood section of Queens County. The post office has lumped this area now as part of Jamaica, Queens. Near my residence is and old parasitized White Oak tree that has supported beautiful "Hen of the Woods" mushrooms since the 1980's.

PRW: How long have you been leading plant ecology and natural history tours in this area?

SB: Since May of 1981. I also work with school classes, boy scouts, girl scouts, nature centers and also birthday parties and environmental groups.

PRW: You mention seasonal trip visits. When is the prime season for some particular plant species encountered on your nature tours?

SB: Roots are mainly in season in early spring and fall. Greens appear in early spring, peak at mid-spring, and continue through late fall. Shoots are around in the spring. Various fruits and berries come into season from the very start of summer through late fall. Mushrooms appear from spring to fall (a few sometimes come up in winter but the fall is the peak of the season). Nuts are in season in autumn.

PRW: What projects are you currently working on?

SB: I'm preparing for spring now by booking events with schools and other organizations and preparing news releases. My current project is "The Wild Vegetarian Cookbook", a guide to vegan cooking with or without wild plants. You'll be able to make wonderful vegan ice creams and mock cheeses, simple to prepare, and much tastier than anything you can buy. You'll even be able to make an omelet without breaking an egg.

PRW: So ends our brief interview.

You may visit the "Wildman's" website at: www.wildmansteve@bigfoot.com

Classification for Mature Forests and Related Woody Vegetation on Long Island

Macroclimatic Types

I. Upland Forests, Woodlands, and Shrubland (Well-Drained Sites)

i. Non-Oak Hardwoods Dominant

A. Tuliptree Series

1. Mixed Mesophytic Association (Tuliptree, Beech, Red Oak, Red Maple, Black Birch, Sweetgum, White Ash)

examples: Queens: Tuliptree Trail, Alley Park; Nassau: Grace Forest, North Hills

B. Beech Series

2. Beech-Mixed Hardwoods Association (including Red Oak, Red Maple) examples: Nassau: Meadowbrook Park (north)

3. Beech Consociation

examples: Nassau: Fox Hollow Preserve, Syosset; Suffolk: Cold Spring Harbor vicinity

ii. Oaks Dominant

C. Red Oak Series

4. Red Oak - Black Oak - Tuliptree - mixed hardwoods Association

examples: Queens: Cunningham Park, Forest Park, Alley Park;

Nassau: William Cullen Bryant Preserve, Roslyn Harbor; Suffolk: Caumsett State Park, Lloyd Neck

D. Black Oak Series

5. Black Oak-Dogwood-Black Haw Association

examples: Queens: south slope of terminal moraine, Queens Co. Farm Museum, Bellrose

6. Black Oak-White Oak-Hickory-Dogwood Association

examples: Suffolk: AMNH Kalbfleisch F.R. Sta., Dix Hills (extirpated); Caumsett State Pk.

7. Black Oak-Red Oak-Scarlet Oak-Red Maple Association

examples: Nassau: Tiffany Creek Preserve, Oyster Bay; Suffolk: Paul Simons Preserve, Head of the Harbor

8. Black Oak-Beech-Black Birch Association

examples: Queens: Oakland Lake; Nassau: Whitney Estate, Manhasset; Glen Cove greenbelt Suffolk: Jayne's Hill, West Hills County Park; Lloyd Neck, Huntington; Riverhead Bluffs, Riverhead

9. Black Oak-Scarlet Oak-White Oak-Sassafras-Wild Black Cherry Association

examples: Nassau: Roosevelt Park south

E. Mountain Oak Series

10. Mountain Oak-Mountain Laurel Association

examples: Nassau: Laurel Hollow; Suffolk: West Hills, Dix Hills

11. Mountain Oak-Mixed Oaks Association

examples: Nassau: Bayville, Oyster Bay

F. Scarlet Oak Series

12. Scarlet Oak-White Oak-Mixed Shrubs Association

examples: Nassau: Roosevelt Park south; Suffolk: Hither Hills State Park

13. Scarlet Oak-Mixed Oaks-Mountain Laurel Association

examples: Nassau: Tiffany Creek Preserve, Oyster Bay; Suffolk: Hither Hills State Park

14. Scarlet Oak-Black Oak-Heaths Association

examples: Nassau: State College at Old Westbury, Jericho; Stillwell Woods, Syosset; Bethpage State Park; Suffolk: Dix Hills; West Hills; Indian Island Park, Riverhead

15. Scarlet Oak-Post Oak-Blackjack Oak-Black Cherry-Smilax Association

examples: Nassau: State Parkways near Hicksville, Levittown: remnants also in Plainview

16. Scarlet Oak-Pitch Pine Association

a. Scarlet Oak-Pitch Pine-Heaths Facies

examples: Nassau: Stillwell Woods, Syosset; Sufolk: Connetquot River State Park

b. Scarlet Oak-Pitch Pine-Dwarf Chinquapin Oak Facies

examples: Suffolk: Deer Park, Brentwood

(To be continued in the next issue of LIBS)

Foraging: A Potential Threat to Preserves and Conservation

Marilyn Jordan

In the days when the wilds were large and people few, subsistence foraging for food generally did not threaten species with extinction, or seriously impair ecosystem health. Today, however, with wildlands reduced to isolated remnants surrounded by dense development and hordes of people, foraging regrettably may no longer be a harmless pursuit. Intensive collecting for food, medicine, and other purposes has driven some species of plants to the brink of extinction locally or globally (e.g. ginseng, Venus flytrap). The trampling, digging or disturbance involved in foraging may also indirectly harm other non-target plants, animals and insects.

Are there circumstances in which limited foraging might be harmless? Probably, such as occasionally eating a few blueberries along the side of the trail. Foraging for invasive non-native plants might even be helpful, if done by an experienced botanist who could reliably identify invasives. But, in general, it can be difficult to tell if foraging for a particular species in a particular place is, indeed, harmless. For example, collecting most of the berries, fruits or nuts in a particular area may deprive animals of a food source. Collecting mushrooms prevents the formation and dispersal of spores by soil fungi; many of these fungi form mycorrhizal connections with roots of trees (and other plants) that are essential for the health of both the fungus and the trees. Over-collecting of mushrooms is a problem in some western forests.

It is the policy of The Nature Conservancy not to allow any collecting, killing or removal of plants in Conservancy preserves without permission of the state or local project director. Permission is usually granted for activities that include (but are not limited to) inventory, research, monitoring or management necessary to protect the ecological health of native species and ecosystems. Plant collection for food would rarely be permitted. I urge the reader to be environmentally sensitive, and not collect plants in any parks, public lands or nature preserves, in order to avoid unintentional harm to our shared natural heritage.

<u>Foraging Policy Guidelines</u> for Private and Public Preserves

City of New York Parks and Recreation

"#1-04 Prohibited Uses

- (b) Destruction or Abuse of Trees, Plants, Flowers, Shrubs and Grass
- (1)(i) No person shall injure, sever, mutilate, kill or remove from the ground any trees under the jurisdiction of the Department without permission of the Commissioner.
- (ii) No person shall sever, mutilate, kill or remove from the ground any plants, flowers, shrubs or other vegetation under the jurisdiction of the Department without permission of the Commissioner.
- (4) No person shall possess any tools commonly used for gardening, or any plant, tree, shrub or other vegetation, in any park except where such possession is specifically designated to be permissible by the Commissioner."

To request permissions to forage in NYC Parks write to:

New York City Parks and Recreation Natural Resources Group 1234 5th Avenue New York, NY 10029

Suffolk County Parks

A permit is required to remove plants or plant parts. Such permission may be requested by writing to:

Suffolk County Department of Parks P.O. Box 144 West Sayville, New York 11796

Nature Conservancy Preserves

Permission requests should be directed to: The Nature Conservancy 250 Lawrence Hill Road Cold Spring Harbor, New York 11724

The Fence Makers

The lop tree boy

Follows his father

Into the woods

In his torn britches.

They walk a boundary ditch together

Looking for white oak saplings

Thick enough to climb.

The man sights one,

Begins to chop at eye level

Stopping short of half way.

"Climb son." He calls.

The boy rushes back from his wandering,

Pulls himself up with wiry arms

Grasping the trunk,

Twisted legs for support.

As he ascends, the sapling sways

Begins to tilt, then falls slowly.

The boy catches the ground

With outstretched legs.

They walk on to the next tree.

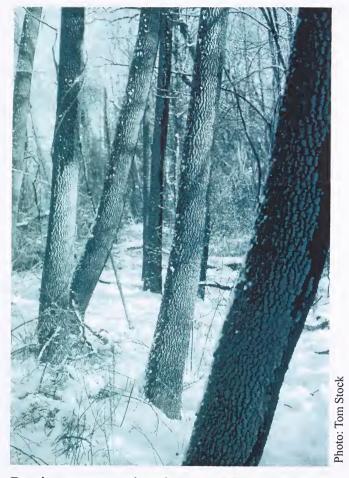
-Tom Stock



Persimmon seeds foretell

"Ozark folk wisdom says that splitting a Persimmon seed into two thin halves will reveal an omen of the coming winter's weather. Spoons reveal a sign that snow will be plenty, forks foretell a light snow, and knives portend cutting cold winds."

- Missouri Conservationist



Persimmon trees in winter at Manorville, LI. Persimmon is near the northern limit of its range on Long Island. There are few Long Island stands

(Muttontown, Cold Spring Harbor and East Hampton) and this newly discovered population appears to be native as there is nothing to indicate otherwise.

Programs

April 10, 2001* Tuesday, 8:00 PM

Eugene Binder: Gene Binder of the U.S. Department of Agriculture will speak on a new invasive eating our trees: "The Asian Longhorned Beetle".

Location: Bill Paterson Nature Center, Muttontown Preserve, East Norwich

May 8, 2001* Tuesday, 8:00 PM

Marilyn Jordan: Marilyn Jordan will speak on the influence of floral exotics with a talk on: "Ecological Impact of Invasive Plants" Location: Uplands Farm, The Nature Conservancy, Lawrence Hill Road, Cold Spring Harbor

June 12, 2001* Tuesday, 5:30 PM

Annual Barbecue: The annual barbecue, featuring world class hot dogs, beef patties and crispy chips, will be held on the green behind the Muttontown Preserve meeting house.

Note: There will be an Executive Board meeting

at 4:30 PM immediately preceding the general meeting. All members are welcome to attend.

Location: Bill Paterson Nature Center

Location: Bill Paterson Nature Center, Muttontown Preserve, East Norwich

*Refreshments and informal talk begin at 7:30. Formal meeting starts at 8:00 PM. Directions: 516-571-8500; TNC:631-367-3225

Field Trips

May 5, 2001 @ 10:00 AM (Saturday) Shu Swamp,

Hike Leader: Carol Johnston

One of Long Island's richest sites for spring wild-flowers including Trout Lily (*Erythronium americanum*), Red Trillium (*Trillium erectum*), Marsh Marigold (*Caltha palustris*), Spring Beauty (*Claytonia virginiana*), LI's only population of Dog Violet (*Viola conspersa*), and Long Island Dwarf Ginseng (*Panax trifolius*) (For a natural history of Shu Swamp, refer to the article written by Carol in the Vol.6, No.3 issue of LIBS.)

<u>Directions</u>: Take Northern Blvd. (25A) and go north on Wolver Hollow Rd. Make a right onto Chicken Valley Rd. Go past Planting Fields Arboretum and past the blinking yellow traffic light. Make a right onto Frost Mill Rd. and proceed to the end. Veer left. The preserve is on the left.

May 20, 2001 @ 10:00 AM (Sunday) Greenwich Audubon Sanctuary, CT Hike Leader: Eric Morgan

Highlights will be visiting one of the highest concentration of ferns (28 species) in the NYC metro area. Altogether there are over 900 species of ferns and spring wildflowers throughout the 686 acres of woodlands, wetlands and meadows.

<u>Directions</u>: Take Throgs Neck Bridge (\$3.50 toll) to I-95 to New Haven. Take I-95 to NYS Thruway (\$1.00 toll). Get off thruway at I-287 West and get off on exit for I-684 (Brewster). Take I-684 to Exit #3 (Bedford; Route 22). First traffic light, turn right onto Route 433. Drive 2 miles to stop sign at intersection of John St. Audubon Center & Fairchild Garden is to your left. Fee: \$3.00

June 16, 2001 @ 9:30 AM (Saturday) Tiffany Creek, Oyster Bay, NY Hike Leader: Al Lindberg

We will visit Flagg Meadow and observe the ongoing meadow restoration. See in full flower Long Island's only population of the rare Northern Tubercled Orchid (*Platanthera flava var. herbiola*). This orchid has recently been rediscovered and was last reported from Long Island by Roy Latham on June 27, 1927 when he collected specimens at Montauk. Later in the trip we will walk through Tiffany Creek's oak slope communities with their Mountain Laurel understory and stands of Cucumber Tree (*Magnolia acuminata*) and Bigleaf Magnolia (*Magnolia macrophylla*).

<u>Directions</u>: Take the LIE (Rte. 495) to Exit 41N. Follow Rte. 106 north to Northern Blvd. (Rte. 25A). Make a right onto Northern Blvd. and follow it for two traffic lights and make a left onto Berry Hill Rd. Follow it to Sandy Hill Rd. (approx. one mile north of Rte. 25A). Sandy Hill Rd. will be straight in front of you as Berry Hill curves to the left. Follow Sandy Hill Rd. The preserve entrance is the first driveway on the left. Meet at the preserve parking area. Bring lunch.

Long Island Botanical Society Muttontown Preserve Muttontown Lane East Norwich, New York 11732

The Long Island Botanicla wishes to welcome the following new members.

New Members

Ellen & Lenny Salvo, Dix Hills, NY Baruch May, Garden City, NY Peter Warny, Sands Point, NY Jean Lynch, Port Washington, NY Jenny Ulsheimer, Albertson, NY Robert Sommers, Matawan, NJ Marie George, Fresh Meadows, NY Philip Marshall, Port Jefferson, NY Eleanor Saulys, Branford, CT

